What is claimed is:

1. A method for forming a database to route a data packet from a plurality of prefixes having information about a desired destination and a certain length thereof, the method comprising the steps of:

forming a main-table by aligning the prefixes into a reference length;

storing information about the prefixes when the length of the prefixes is shorter than the reference length, and storing connection information about a table from which information about the prefixes can be obtained when the length of the prefixes is longer than the reference length at an entry of the main-table; and

forming a sub-table with respect to prefixes having longer length than the reference length by calculating a distance between a base point and the respective prefixes and arraying nodes having a same distance, the base point being a node indicated by the connection information.

2. The method of Claim 1, wherein, in the step of forming the main-table, the plurality of prefixes are arrayed into the reference length according to a longest prefix matching method.

3. The method of Claim 1, wherein, in the step of forming the sub-table, with respect to the prefixes having longer length than the reference length, remaining bit strings except for a reference length bit are arrayed according to a prefix distance ordering method.

4. The method of Claim 3, wherein the step of forming the sub-table further comprises the steps of:

(a) aligning the prefixes, which include the bit strings longer than the reference length, in an ascending order;

(b) arraying the prefixes having the reference length at a first row from the aligned prefixes;

(c) adding information corresponding to the prefixes arrayed at the first row and connection information about the prefixes to be connected after the prefixes of the first row;

(d) arraying the prefixes to be connected after the prefixes of the first row; and

(e) forming a data structure of the sub-table by repeating from the step (b) to the step (d).

5. A method for routing a data packet from a plurality of prefixes having information about a desired destination and a certain length through a router, the router having a main-table formed by aligning the plurality of prefixes into a reference length according to the longest prefix matching method, and a sub-table formed with respect to the prefixes that are longer than the reference length according to a prefix distance ordering method, the method comprising the steps of:

searching for information about a packet which is intended to be routed with reference to the main-table;

obtaining corresponding information about the packet when the information about the packet is available with reference to the main-table; and

obtaining corresponding information about the packet with reference to the sub-table when the information about the packet is unavailable with reference to the main-table.

6. The method of Claim 5, wherein, when the length of the prefixes is shorter than the reference length, an entry of the main-table stores the information about the prefixes, while, when the length of the prefixes is longer than the reference length, the entry of the main-table stores connection information of the sub-table.

7. A router for routing a data packet from a plurality of prefixes having a certain length, the router comprising:

a database forming section for forming a main-table by aligning the plurality of prefixes into a reference length, storing information about the prefixes at an entry of the main-table when the length of the prefixes is shorter than the reference length, storing connection information when the length of the prefixes is longer than the reference length, and forming a sub-table with respect to the prefixes that are longer than the reference length by arraying nodes having a same distance between a base point and the respective prefixes, the base point being a node indicated by the connection information; and

a lookup section for searching for information about the packet which is intended to be routed with reference to the main-table, obtaining

corresponding information when the information about the packet is available with reference to the main-table, and obtaining corresponding information with reference to the sub-table when the information about the packet is unavailable with reference to the main-table.